

# Food Science and Safety

## Course Description

This course focuses on the importance of a safe, sanitary and reliable food supply for human consumption. Topics explored include food safety regulations and requirements in processing facilities and food service establishments, along with home-handling of foods. Students will also learn to identify pathogenic foodborne illnesses and identify methods to prevent and control those illnesses in various types of food products. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**Course Code:** 014000

## Endorsements

**to teach:** AFNR

## Programs of Study to which this Course applies:

Food Products and Processing Systems  
Food Products and Processing Systems Plus  
Diversified Agriculture Systems  
Diversified Agriculture Systems Plus

AFNR.HS.4.1	
Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.	
AFNR.HS.4.1.a	Define the safety programs found in food products and processing facilities - HACCP, PCHF, SSOPs and GMPs.
AFNR.HS.4.1.b	Explain safe food handling and sanitation procedures in food production.
AFNR.HS.4.1.c	Examine the steps taken in food production and the food service industry to ensure quality of food products.
AFNR.HS.4.2	
Identify the dangers associated with pathogenic foodborne illnesses, examine prevention and control methods and analyze procedures to manage outbreaks.	
AFNR.HS.4.2.a	Define major foodborne illnesses and the steps of adequate prevention and/or control.
AFNR.HS.4.2.b	Summarize the proper implementation of a nationwide food product recall.
AFNR.HS.4.2.c	Critique successful and unsuccessful food product recalls.
AFNR.HS.CR.1	
Describe career opportunities and means to achieve those opportunities in each of the AFNR career pathways.	
AFNR.HS.CR.1.a	Evaluate and implement the steps and requirements to pursue a career opportunity in an AFNR career pathway.
AFNR.HS.CR.1.b	Examine and choose career opportunities that are matched to personal life skills, talents, and career goals in an AFNR pathway of interest.
AFNR.HS.CR.2	
Demonstrate employability skills for college and career readiness.	
AFNR.HS.CR.2.a	Model personal responsibility in the workplace and community.
AFNR.HS.CR.2.d	Synthesize information, knowledge and experience to generate original ideal and challenge assumptions in the workplace and community.
AFNR.HS.CR.2.e	Apply reason and logic to evaluate workplace and community situations from multiple perspectives.
AFNR.HS.CR.2.f	Investigate, prioritize and select solutions to solve problems in the workplace community.
AFNR.HS.CR.2.g	Contribute to team-oriented projects and builds consensus to accomplish results using cultural global competence in the workplace and community.
AFNR.HS.CR.3	
Identify and demonstrate personal financial management and planning.	
AFNR.HS.CR.3.a	Design and implement a personal financial management plan.
AFNR.HS.CR.4	
Identify and demonstrate workplace safety.	
AFNR.HS.CR.4.a	Identify and explain the implication of required regulations to maintain and improve safety, health and environments management systems.
AFNR.HS.CR.4.b	Apply health and safety practices to AFNR workplaces.
AFNR.HS.CR.4.c	Use appropriate protective equipment and demonstrate safe and proper use of AFNR tools and equipment.

<b>AFNR.HS.CR.5</b>	
<b>Evaluate the nature and scope of the AFNR Career Cluster and the role of agriculture, food and natural resources (AFNR) in society and the economy.</b>	
AFNR.HS.CR.5.b	Identify public policies and examine their impact on AFNR systems.
AFNR.HS.CR.5.c	Examine the components of the AFNR systems and assess their impact on the local, state, national and global society and economy.
<b>AFNR.HS.CR.6</b>	
<b>Identify and demonstrate leadership skills and traits in demand of leadership roles in the agriculture industry.</b>	
AFNR.HS.CR.6.b	Craft SMART goals to achieve by the end of a specific agricultural education course.
AFNR.HS.CR.6.c	Write a career objective.
AFNR.HS.CR.6.f	Write and deliver a speech focused on a currently controversial topic within the agricultural industry while arguing both points of view.